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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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			ART UNIT	PAPER NUMBER
			1624	

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,954

Applicant(s)

ARKINSTALL ET AL.

Examiner

Brenda L. Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-41 are pending in the application.

This action is in response to applicant's amendment filed December 30, 2005.

Claims 1, 2, 3, 5, 8-10, 13, 22, 29-31 and 36 have been amended.

Response to Amendment

Applicant's arguments filed December 30, 2005 have been fully considered with the following effect:

1. With regards to the 35 U.S.C. § 112, first paragraph rejection of claims 13-20, 23-26, 32-34 and 37-41 labeled paragraph 3 maintained in the last office action, the applicants' arguments have been fully considered, however they were not found persuasive. The applicants' stated that the sulfonamides of the present invention are inhibitors of JNK (c-Jun Kinase) and that one skilled in the art knows how to use a JNK-interacting protein to inhibit the JNK kinase pathway. The applicants point to U.S. Patent No. 6,410,693 which describes that JIP-1 can be used to treat neurodegenerative diseases characterized by apoptosis, including Parkinson's disease and Alzheimer's disease, and blood clots. Other conditions that can be treated using the composition and methods of the invention by interfering with the JNK pathway are autoimmune diseases such as arthritis; other conditions characterized by inflammation; and malignancies, such as leukemia... Other conditions that can be treated with [the invention's]) compositions include oxidative damage to organs, such as the liver and kidney, and heart diseases, particularly damage due to ischemia/reperfusion and cardiomyopathy. [column 2, lines 17-29] Thus, it is clear that one skilled in the art knew

that inhibiting the JNK kinase pathway was useful in treating a variety of diseases claimed in the present application.

As stated in the last office action several journal articles such as Yang are speculative at best to the treatment of neurological disorders, ranging from acute ischemia to chronic neurodegenerative diseases. Xie states that “selective modulation of JNK3 activity **could potentially** provide therapeutic intervention for neurodegenerative diseases such as stroke and epilepsy”. Kumagae states that “identifying each JNK in the brain and comparing regulation, activation and expression in the various neural cell classes are needed to understand the differential responses to acute and chronic disease” and “actual changes in JNK activities in the Alzheimer’s disease brain are not yet known”.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims where the disorder is associated with the modulation of JNK pathway. As stated in the last office action it is difficult to treat many of the disorders claimed herein. The applicants discuss the use of modulation of the JNK pathway in the treatment of Alzheimer’s disease, however the use of JNK inhibitors have only been linked to stroke and epilepsy which in turn is speculative as indicated by Xie.

Where the utility is unusual or difficult to treat or speculative, the examiner has authority to require evidence that tests relied upon are reasonably predictive of in vivo efficacy by those skilled in the art. See *In re Ruskin*, 148 USPQ 221; *Ex parte Jovanovics*, 211 USPQ 907; MPEP 2164.05(a).

Patent Protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. Tossing out the mere germ of an idea does not constitute enabling disclosure. *Genentech Inc. v. Novo Nordisk* 42 USPQ2d 1001.

Additionally, the applicants' claim the treatment of cancer generally. Evidence involving a single compound and two types of cancer was not found sufficient to establish the enablement of claims directed to a method of treating seven types of cancer with members of a class of several compounds *In re Buting* 163 USPQ 689. The remarkable advances in chemotherapy have seen the development of specific compounds to treat specific types of cancer. The great diversity of diseases falling within the "cancer" category means that it is contrary to medical understanding that any agent (let alone a genus of thousands of compounds) could be generally effective against such diseases. The intractability of these disorders is clear evidence that the skill level in this art is low relative to the difficulty of the task.

According to Stedman there are over two hundred such cancerous conditions, including, "acinar cell tumors, a solid and cystic tumors of the pancreas, occurring in young women; tumors cells contain zymogen granules. Acoustic tumors vestibular schwannoma. Acute splenic tumors, acute splenitis, enlargement, and softening of the spleen, usually due to bacteremia or severe bacterial toxemia. Adenoid tumors adenoma, or neoplasm with gland like spaces. Adenomatoid tumors a small benign tumors of the male epididymis and female genital tract, consisting of fibrous tissue or smooth muscle enclosing anastomosing gland-like spaces containing acid

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mucopolysaccharide lined by flattened cells that have ultra-structural characteristics of mesothelial cells, benign mesothelioma of genital tract tumors, adenomatoid odontogenic tumors a benign epithelial odontogenic tumors appearing radiographically as a well-circumscribed radiolucent-radiopaque lesion usually surrounding the crown of an impacted tooth in an adolescent or young adult; characterized histologically by columnar cells organized in a duct like configuration interspersed with spindle-shaped cells and amyloid like deposition that gradually undergoes dystrophic calcification, adenoameloblastoma, ameloblastic adenomatoid tumors. Adipose tumors lipoma. Ameloblastic adenomatoid tumors. Adenomatoid odontogenic tumors. Amyloid tumors nodular amyloidosis. Aortic body tumors chemodectoma. Bednar tumors. Pigmented dermatofibrosarcoma protuberans. Benign tumors, a tumor that does not form metastases and does not invade and destroy adjacent normal tissue. Innocent tumors. Blood tumors, term sometimes used to denote an aneurysm, hemorrhagic cyst, or hematoma. Borderline ovarian tumors an ovarian surface epithelial tumors in which the growth pattern is intermediate between benign and malignant; includes mucinous, serous, endometrioid, and Brenner tumors of the ovary; highly curable but may recur after surgical removal. Low malignant potential tumors, Brenner tumors a relatively infrequent benign neoplasm of the ovary, consisting chiefly of fibrous tissue that contains nests of cells resembling transitional type epithelium, as well as gland like structures that contain mucin; origin is controversial, but it may arise from the Walthard cell rest; ordinarily found incidentally in ovaries removed for other reasons, especially in postmenopausal women. Brooke tumors. Trichoepithelioma. Brown tumors, a mass of

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fibrous tissue containing hemosiderin-pigmented macrophages and multinucleated giant cells, replacing and expanding part of a bone in primary hyperparathyroidism. Tumors burden the total mass of tumors tissue carried by a patient with a malignancy.

Calcifying epithelial odontogenic tumors a benign epithelial odontogenic neoplasm derived from the stratum intermedium of the enamel organ; a painless, slowly growing, mixed radiolucent-radiopaque lesion characterized histologically by cords of polyhedral epithelial cells, deposits of amyloid, and spherical calcifications. Pindborg tumors.

Carcinoid tumors a usually small, slow-growing neoplasm composed of islands of rounded, oxyphilic, or spindle-shaped cells of medium size, with moderately small vesicular nuclei, and covered by intact mucosa with a yellow cut surface; neoplastic cells are frequently palisaded at the periphery of the small groups, and the latter have a tendency to infiltrate surrounding tissue. Such neoplasms occur anywhere in the gastrointestinal tract (and in the lungs and other sites), with approximately 90% in the appendix and the remainder chiefly in the ileum, but also in the stomach, other parts of the small intestine, the colon, and the rectum; those of the appendix and small tumors seldom metastasize, but reported incidences of metastases from other primary sites and from tumors exceeding 2.0 cm in diameter vary from 25-75%; lymph nodes in the abdomen and the liver may be conspicuously involved, but metastases above the diaphragm are rare. Carcinoid syndrome. Carotid body tumors. Chemodectoma. Cellular tumors, tumors composed mainly of closely packed cells. Cerebellopontine angle tumors vestibular schwannoma. Chromaffin tumors. Chromaffinoma. Codman tumors. Chondroblastoma of the proximal humerus. Collision tumors two originally

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separate tumors, especially a carcinoma and a sarcoma, that appear to have developed by chance in close proximity, so that an area of mingling exists. Carcinosarcoma.

Connective tumors, any tumors of the connective tissue group, such as osteoma, fibroma, sarcoma. Dermal duct tumors benign small tumors derived from the

intra-dermal part of eccrine sweat gland ducts occurring often on the head and neck.

Dermoid tumors. Dermoid cysts. Desmoid tumors. Desmoid (2). Desmoplastic

small cell tumors a high-grade malignant tumors found most often in the abdomen of adolescent males; typically tumors cells contain both desmin and keratin, i.e., show

hybrid features like fetal mesothelial cells; the exact nature of these cells remains

unknown. Dysembryoplastic neuroepithelial tumors a rare low-grade neoplasm most

frequently seen in children and associated with seizures and cortical dysplasia; the

often multinodular, multicystic tumors is composed of oligodendroglial-like cells with

accompanying neurons. Eighth nerve tumors. Vestibular schwannoma. Embryonal

tumors. Embryonic tumors a neoplasm, usually malignant, which arises during

intrauterine or early postnatal development from an organ rudiment or immature tissue;

it forms immature structures characteristic of the part from which it arises, and may form

other tissues as well. The term includes neuroblastoma and Wilms tumors, and is also

used to include certain neoplasms presenting in later life, this usage being based on the

belief that such tumors arise from embryonic rests. Teratoma, embryoma, embryonal

tumors of ciliary body embryonal medulloepithelioma. Endocervical sinus tumors

malignant germ cell tumors commonly found in the ovary. The tumor arises from

primitive germ cells and develops into extra-embryonic tissue resembling the yolk sac,

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yolk sac carcinoma. Endodermal sinus tumors a malignant neoplasm occurring in the gonads, in sacrococcygeal teratomas, and in the mediastinum; produces (alpha)-fetoprotein and is thought to be derived from primitive endodermal cells. Yolk sac tumors. Endometrioid tumors, a tumor of the ovary containing epithelial or stromal elements resembling tumors of the endometrium. Erdheim tumors craniopharyngioma. Ewing tumors a malignant neoplasm which occurs usually before the age of 20 years, about twice as frequently in males, and in about 75% of patients involves bones of the extremities, including the shoulder girdle, with a predilection for the metaphysis; histologically, there are conspicuous foci of necrosis in association with irregular masses of small, regular, rounded, or ovoid cells (2-3 times the diameter of erythrocytes), with very scanty cytoplasm. Endothelial myeloma. Ewing sarcoma. Fecal tumors. Fecaloma. Fibroid tumors old term for certain fibromas and leiomyomas. Gastrointestinal autonomic nerve tumors benign or malignant tumors of stomach and small intestine histogenetically related to myenteric plexus; may be familial and related to gastrointestinal neuronal dysplasia. Gastrointestinal stromal tumors benign or malignant tumors composed of unclassifiable spindle cells; immunohistochemically distinct from smooth muscle and Schwann cell tumors. Giant cell tumors of bone a soft, reddish-brown, sometimes malignant, osteolytic tumors composed of multinucleated giant cells and ovoid or spindle-shaped cells, occurring most frequently in an end of a long tubular bone of young adults. Giant cell myeloma. Osteoclastoma, giant cell tumors of tendon sheath a nodule, possibly inflammatory in nature, arising commonly from the flexor sheath of the fingers and thumb; composed of fibrous tissue, lipid- and

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hemosiderin-containing macrophages, and multinucleated giant cells. Localized nodular tenosynovitis. Glomus tumors, a vascular neoplasm composed of specialized pericytes (sometimes termed glomus cells), usually in single encapsulated nodular masses that may be several millimeters in diameter and occur almost exclusively in the skin, often subungually in the upper extremity; it is exquisitely tender and may be so painful that patients voluntarily immobilize an extremity, sometimes leading to atrophy of muscles; multiple glomus tumors occur, sometimes with autosomal dominant inheritance. Tumors 1 with cavernous spaces lined by glomus cells are called glomangiomas. Glomus jugulare tumors a glomus tumors arising from the jugular glomus and usually presenting initially in the hypotympanum. Glomus tympanicum tumors a glomus tumors arising on the medial wall of the middle ear. Godwin tumors benign lymphoepithelial lesion. Granular cell tumors a microscopically specific, generally benign tumors, often involving peripheral nerves in skin, mucosa, or connective tissue, derived from Schwann cells; the abundant cytoplasm contains lysosomal granules, the cells infiltrate between adjacent tissues although growth is slow, and adjacent surface epithelium may show hyperplasia. Granulosa cell tumors a benign or malignant tumor: of the ovary arising from the membrana granulosa of the vesicular ovarian (graafian) follicle and frequently secreting estrogen; it is soft, solid, white or yellow, and consists of small round cells sometimes enclosing Call-Exner bodies; larger lipid-containing cells may be present tumors folliculoma (1). Grawitz tumors old eponym for renal adenocarcinoma. Heterologous tumors a tumors composed of a tissue unlike that from which it springs. Hilar cell tumors of ovary,

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steroid cell tumors. Histoid tumors old term for a tumors composed of a single type of differentiated tissue. Homologous tumors, a tumor composed of tissue of the same sort as that from which it springs. Innocent tumors, benign tumors, interstitial cell tumors of testis, Leydig cell tumors. Islet cell tumors an endocrine tumors composed of cells equivalent or related to those in the normal islet of Langerhans; may be benign or malignant; usually hormonally active; comprises insulinomas, glucagonomas, vipomas, somatostatinomas, gastrinomas, pancreatic polypeptide-secreting tumors, and multihormonal or hormonally inactive pancreatic islet cell tumors. Juxtaglomerular cell tumors, a tumor of juxtaglomerular cell origin usually presenting with symptoms of secondary aldosteronism, including severe diastolic hypertension, which appears to be due to tumors-produced renin. The histologic appearance resembles that of a hemangiopericytoma. Klatskin tumors, adenocarcinoma located at the bifurcation of the common hepatic duct tumors Krukenberg tumors a metastatic carcinoma of the ovary, usually bilateral and secondary to a mucous carcinoma of the stomach, which contains signet-ring cells filled with mucus. Landschutz tumors a transplantable, possibly isoantigenic, highly virulent neoplasm which can be grown in any strain of mice; the host is killed in a few days by what is apparently an anaplastic carcinoma. Leydig cell tumors a testicular and, less commonly, ovarian neoplasm composed of Leydig cells, usually benign but may be malignant; may secrete androgens or estrogens. Interstitial cell tumors of testis. Lindau tumors, hemangioblastoma, low malignant potential tumors, borderline ovarian tumors, malignant tumors, a tumors that invades surrounding tissues, is usually capable of producing metastases, may recur after attempted removal, and is

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likely to cause death of the host unless adequately treated. Malignant mixed müllerian tumors (MMMT) mixed mesodermal tumors, melanotic neuroectodermal tumors of infancy a benign neoplasm of neuroectodermal origin that most often involves the anterior maxilla of infants in the first year of life. It presents clinically as a rapidly growing blue-black lesion producing a destructive radiolucency; histologically, it is characterized by small, round, undifferentiated tumors cells interspersed with larger polyhedral melanin-producing cells arranged in an alveolar configuration.

Melanoameloblastoma, pigmented ameloblastoma, pigmented epulis, progonoma of jaw, retinal anlage tumors. Merkel cell tumors a rare malignant cutaneous tumors seen in sun-exposed skin of elderly patients composed of dermal nodules of small round cells with scanty cytoplasm in a trabecular pattern; the tumors cells contain cytoplasmic dense core granules resembling neurosecretory granules seen in Merkel cells. Primary neuroendocrine carcinoma of the skin, trabecular carcinoma. Mesonephroid tumors, mesonephroma. Mixed tumors a tumors composed of two or more varieties of tissue. Mixed mesodermal tumors a sarcoma of the body of the uterus arising in older women, composed of more than one mesenchymal tissue, especially including striated muscle cells. Malignant mixed müllerian tumors, mixed tumors of salivary gland, a tumor composed of salivary gland epithelium and fibrous tissue with mucoid or cartilaginous areas. Pleomorphic adenoma, mixed tumors of skin, chondroid syringoma, mucoepidermoid tumors, mucoepidermoid carcinoma. Nelson tumors a pituitary tumors causing the symptoms of Nelson syndrome, oil tumors, lipogranuloma, oncocytic hepatocellular tumors, fibrolamellar Liver cell carcinoma, organoid tumors a tumors of

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complex structure, glandular in origin, containing epithelium, connective tissue, etc.

Pancoast tumors any carcinoma of the lung apex causing the Pancoast syndrome by invasion or compression of the brachial plexus and stellate ganglion. Superior pulmonary sulcus tumors, pauillary tumors, papilloma, paraffin tumors, paraffinoma.

Phantom tumors accumulation of fluid in the interlobar spaces of the lung, secondary to congestive heart failure, radiologically simulating a neoplasm. Phyllodes tumors a

spectrum of neoplasms consisting of a mixture of benign epithelium and stroma with variable cellularity and cytologic abnormalities, ranging from benign phyllodes tumors to cytosarcoma phyllodes; most often involves the breast tumors pilar tumors of scalp a

solitary tumors of the scalp in elderly women that may ulcerate; microscopically resembles squamous cell carcinoma composed of glycogen-rich clear cells, but is

benign. Proliferating tricholemmal cyst tumors Pindborg tumors calcifying epithelial

odontogenic tumors. Pinkus tumors fibroepithelioma, placental site trophoblastic tumors a tumor usually arising in the uterus of parous women during reproductive years.

Histologically, the tumors consist of a predominance of intermediate trophoblastic cells with fibrinoid material and vascular invasion. Pontine angle tumors, a tumor in the angle formed by the cerebellum and the lateral pons, often refers to an acoustic schwannoma.

Potato tumors of neck a firm nodular mass in the neck, usually a carotid body tumors (chemodectoma). Pregnancy tumors, granuloma gravidarum, primitive

neuroectodermal tumors a designation used to refer to a group of morphologically similar embryonal neoplasms that arise in intracranial and peripheral sites of the nervous system and which may show various degrees of cellular differentiation;

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includes medulloblastoma, Rathke pouch tumors, craniopharyngioma, retinal anlage tumors melanotic neuroectodermal tumors of infancy. Rous tumors, Rous sarcoma. Sand tumors, pineoblastoma, etc. Ranine tumors ranula (2). Rathke pouch tumors, craniopharyngioma, and retinal anlage tumors melanotic neuroectodermal tumors of infancy. Rous tumors, Rous sarcoma. Sand tumors, psammomatous, meningioma. Sertoli cells; most often benign but may be malignant tumors Sertoli-Leydig cell tumors an ovarian tumors composed of Sertoli and Leydig cells; may secrete androgens. Arrhenoblastoma, gynandroblastoma (1). Sertoli-stromal cell tumors a generic term for ovarian sex-cord stromal tumors composed of Sertoli cells, Leydig cells, and cells resembling rete epithelial cells, either in a pure form or as a mixture of these cell types. Solitary fibrous tumors, a benign tumor of fibrous tissue, which usually arises in the pleural space on other sites. Benign mesothelioma. Squamous odontogenic tumors a benign epithelial odontogenic, tumors thought to arise from the epithelial cell rests of Malassez; appears clinically as a radiolucent lesion closely associated with the tooth root and histologically as islands of squamous epithelium enclosed by a peripheral layer of flattened cells. Steroid cell tumors a collective term used for ovarian tumors composed of cells resembling steroid-secreting lutein cells; comprises several tumors. Such as stromal luteoma, Leydig cell tumors, steroid cell tumors not otherwise specified; hormonally active; may be benign or malignant tumors, hilar cell tumors of ovary, sugar tumors a benign clear cell tumors of the lung containing abundant glycogen. Superior pulmonary sulcus tumors. Pancoast tumors. Teratoid tumors teratoma, theca cell tumors, thecoma, triton tumors a peripheral nerve tumors with

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striated muscle differentiation, seen most often in neurofibromatosis; named after the Masson theory of transformation of motor nerve fibers into muscle in triton salamanders. Turban tumors multiple cylindromas of the scalp which, when overgrown, may resemble a turban. Villous tumors villous papilloma. Warthin tumors, adenolymphoma. Wilms tumors, a malignant renal tumor of young children, composed of small spindle cells and various other types of tissue, including tubules and, in some cases, structures resembling fetal glomeruli, and striated muscle and cartilage. Often inherited as an autosomal dominant trait, neuroblastoma. Yolk sac tumors endodermal sinus tumors. Zollinger-Ellison tumors a non-beta cell tumors of pancreatic islet: causing the Zollinger-Ellison syndrome."

As stated in the MPEP, 2164.08 "[t]he Federal Circuit has repeatedly held that the specification must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557, 1561 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). Nevertheless, not everything necessary to practice the invention need be disclosed. In fact, what is well known is best omitted. In re Buchner, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991). All that is necessary is that one skilled in the art be able to practice the claimed invention, given the level of knowledge and skill in the art. Further the scope of enablement must only bear a reasonable correlation to the scope of the claims. See, e.g., In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). As concerns the breadth of a claim relevant to enablement, the only relevant concern should be whether the scope of enablement provided to one skilled in the art by the disclosure is commensurate with

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the scope of protection sought by the claims. In re Moore, 439 F.2d 1232, 1236, 169 USPQ 236, 239 (CCPA 1971). See also Plant Genetic Sys., N.V. v. DeKalb Genetics Corp., 315 F.3d 1335, 1339, 65 USPQ2d 1452, 1455 (Fed. Cir. 2003) (alleged pioneer status of invention irrelevant to enablement determination."

Claims 13-20, 23-26, 32-34 and 37-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for reasons of record and stated above.

2. The applicant's amendments and arguments are sufficient to overcome the 35 USC § 112, second paragraph rejections of claims 1-3, 5, 8, 10, 13-20, 23-26, 32-34 and 37-41, labeled paragraph 3b), h), i), j), l), o), q), r), u) and v) maintained in the last office action, which are hereby **withdrawn**. However, with regards to the 35 USC § 112, second paragraph rejections of claims 3, 5, 13-20, 23-26, 32-34 and 37-41, labeled paragraph 3k), n) and aa), the applicant's amendments and arguments have been fully considered, however they were not found persuasive.

k) The applicants' stated that claim 3 has been amended to overcome the indefiniteness requirement. However, the definition of the substituents on the aryl and heteroaryl moieties in R³ and R^{3'} has not been amended, i.e. an "and" is needed between sulfoxy and C₁-C₆-thioalkoxy.

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

n) The applicants' stated that claim 5 has been amended to overcome the indefiniteness requirement. However, the definition of Ar¹ and Ar² is not stated in the form of a proper Markush group, i.e. an "and" is needed between furyl and pyridyl.

Claim 5 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

aa) The applicants' stated that the present inventors have invented compounds that modulate the activity of the JNK pathway and therefore, any disease that is affected by this modulation would necessarily be treated by such modulation. However, claims 13-20, 23-26, 32-34 and 37-41 generically claims the method of treating a disorder responsive to the activity of modulation of JNK pathway. As stated in the previous office action, the rejection of claims 13-20, 23-26, 32-34 and 37-41 were on the grounds that it is indefinite, in that it is not known which diseases are capable of being responsive to the activity of JNK. The scope of diseases and/or disorders associated with the activity of JNK could alter over time. The applicants' are not entitled to preempt the efforts of others. The claims are not directed to a method of treatment but to the method of

modulation of the JNK pathway, thus the applicants have not set forth the metes and bounds of the claim.

Claims 13-20, 23-26, 32-34 and 37-41 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

3. With regards to the provisional obviousness-type double patenting rejection of claims 1-3, 5, 6, 13-35 and 37-41 labeled paragraph 5 over copending Application No. 10/381,197 maintained in the last office action, the applicant's arguments have been fully considered but are not found persuasive. The applicant's stated that 10/381,197, is subject to a restriction requirement mailed August 31, 2005 and that there is no indication of what claims will be elected and thus the provisional double patenting rejection is premature. MPEP 804 states that a provisional rejection can be addressed without waiting for the first patent to issue.

MPEP 804 Definition of Double Patenting

I. INSTANCES WHERE DOUBLE PATENTING ISSUE CAN BE RAISED

B. Between Copending Applications—Provisional Rejections

Occasionally, the examiner becomes aware of two copending applications that were filed by the same inventive entity, or by different inventive entities having a common inventor, and/or by a common assignee, or that claim an invention resulting from activities undertaken within the scope of a joint research agreement as defined in 35 U.S.C. 103(c)(2) and (3), that would raise an issue of double patenting if one of the applications became a patent. Where this issue can be addressed without violating the confidential status of applications (35 U.S.C. 122), the courts have sanctioned the practice of making applicant aware of the potential double

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patenting problem if one of the applications became a patent by permitting the examiner to make a "provisional" rejection on the ground of double patenting. In re Mott, 539 F.2d 1291, 190 USPQ 536 (CCPA1976); In re Wetterau, 356 F.2d 556, 148 USPQ 499 (CCPA 1966). **The merits of such a provisional rejection can be addressed by both the applicant and the examiner without waiting for the first patent to issue.**

Claims 1-3, 5, 6, 13-35 and 37-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/381,197, for reasons of record and stated above.

4. With regards to the provisional obviousness-type double patenting rejection of claims 1-3 and 5-26 labeled paragraph 6 over copending Application No. 10/381,200 of the last office action, the applicant's arguments have been fully considered but are not found persuasive. The applicant's stated that in 10/381,200, the compounds of formula I are such that the definition of Ar^2 as aryl or heteroaryl has been deleted and limits Ar^2 to a thienyl group carrying at least one hydrophilic substituent. The hydrophilic substituent is specifically exemplified in claim 5 where the hydrophilic group is $COOR^3$, $CONR^3R^3$, OH, a C_1 - C_4 alkyl substituted OH or amino group, a hydrazido carbonyl group, sulfate, a sulfonate, an amine or an ammonium salt. Several examples of 10/381,200 are such that the thienyl group, i.e. Ar^2 is substituted with COOH, COOEt, $CONH_2$, etc. Therefore, the compounds, compositions and method of use of the compounds of formula I of the instant invention, are disclosed in 10/381,200 when Ar^2 of the instant invention is a substituted thienyl as set forth in claim 7. The definition of the substituted aryl and heteroaryl groups as set forth in the specification is as follows aryl

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and heteroaryl can optionally be substituted with from 1 to 5 substituents selected from the group consisting of C₁-C₆-alkyl, C₁-C₆-alkyl aryl, C₁-C₆-alkyl heteroaryl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, **primary, secondary or tertiary amino groups or quaternary ammonium moieties**, acyl, acyloxy, acylamino, **aminocarbonyl, alkoxycarbonyl**, aryl, heteraryl, **carboxyl**, cyano, halogen, **hydroxyl**, mercapto, nitro, **sulfoxy, sulfonyl**, alkoxy, thioalkoxy, trihalomethyl. Alternatively said substitution could also comprise situations where neighboring substituents have undergone ring closure, notably when vicinal functional substituents are involved, thus forming e.g. lactams, lactones, cyclic anhydrides, but also acetals, thioacetals, aminals formed by ring closure for instance in an effort to obtain a protective group.

Claims 1-3 and 5-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 10/381,200, for reasons of record and stated above.

5. With regards to the provisional obviousness-type double patenting rejection of claims 1-3 and 5-26 labeled paragraph 7 over copending Application No. 10/381,665 of the last office action, the applicant's arguments have been fully considered but are not found persuasive. The applicant's stated that 10/381,665, has not yet been examined and that there is no way of knowing what claims in 10/381,665 will eventually be allowed and thus the provisional double patenting rejection is premature. MPEP 804 states that a provisional rejection can be addressed without waiting for the first patent to issue.

Claims 1-3 and 5-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No, 10/381,665, for reasons of record and stated above.

6. The applicant's amendments and arguments are sufficient to overcome the 35 USC § 112, first paragraph rejections of claims 1-3, 5-10 and 13-41, labeled paragraph 11 of the last office action, which is hereby **withdrawn**.

7. With regards to the 35 U.S.C. § 112, first paragraph rejection of claims 2, 3 and 29-31 labeled paragraph 12 of the last office action, the applicants' arguments have been fully considered, however they were not found persuasive. The applicants' stated that the specification as filed at page 11, lines 5-16, specifically states that in a preferred embodiment of the invention, Y is a piperidine or piperazine moiety. However, the definition of Y is such that the piperidine ring **whereby one nitrogen atom within said piperidine ring forms a bond with the sulfonyl group of formula I thus providing the sulfonamide**. Independent Claims 2 and 13 fail to indicate that the piperidino group of Y must be substituted in formula I through the nitrogen atom.

Claims 2, 3, 13-19, 23-26 and 29-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for reasons of record and stated above.

8. The applicant's amendments and arguments are sufficient to overcome the 35 USC § 112, second paragraph rejections of claims 1-3, 5-10 and 13-41, labeled paragraph 13b), c), e), f), g), h), i), k), m), n), o), r), t) and u) of the last office action, which are hereby **withdrawn**. However, with regards to the 35 USC § 112, second paragraph rejections of claims 2, 3, 9, 10, 27-31 and 36, labeled paragraph 13a), d), j), l), p) q) and s), the applicant's amendments and arguments have been fully considered, however they were not found persuasive.

a) The applicants' stated that claim 1 has been amended to replace the "()" with "[]". However, the proviso at the end of claim 2 still contains a moiety, which has not been amended.

Claims 2, 3 and 29-31 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

d) The applicants' stated that claim 9 has been amended to recite that n' is an integer of from 0 to 4, however, this is not so.

Claims 9, 10 and 36 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

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j) The applicants' failed to comment on this rejection. Claim 9 is vague and indefinite in that it is not known what is meant by the moiety $-\text{NSO}_2\text{R}^3$, which is not valence satisfied. See line 4 on page 11.

Claims 9, 10 and 36 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

l) The applicants' failed to comment on this rejection. Claim 9 is vague and indefinite in that it is not known what is meant by the capital letter "W" in the paragraph beginning Wherein R^3 and $\text{R}^{3'}$ being substituents independently. Capital letters are only used at the beginning of the claim.

Claims 9, 10 and 36 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

p) The applicants' failed to comment on this rejection. Claim 10 recites the limitation "H" in the definition of R^6 . There is insufficient antecedent basis for this limitation in the claim.

Claims 10 and 36 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the

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subject matter which applicant regards as the invention, for reasons of record and stated above.

q) The applicants' stated that claim 10 depends from claim 9, which depends from claim 8 and that claim 8 depends from "any of the preceding claims". Claim 4 recites that L^1 can be a substituted or unsubstituted cyclic C_4-C_8 -alkyl optionally containing 1-3 heteroatoms and that R^3 can be H. First claim 8 does not depend on any of the preceding claims but rather claim 1. Claim 4 is withdrawn from further consideration. Furthermore, a claim must have antecedent basis to the claim from which it directly depends when the definition of L^1 in that claim is limited as well.

Claims 10 and 36 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record and stated above.

s) The applicants' stated that it is not understood why claims 27-31 are considered to be indefinite because of the recitation of compounds. Claims 1-3, 5-12, 27, 28, 35 and 36 are compound claims not composition claims and thus compounds should appear in the singular not the plural.

Claims 27 and 28 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention, for reasons of record and stated above.

9. With regards to the objection of claim 22, the applicant's amendments and arguments have been fully considered, however they were not found persuasive. The applicants' stated that claim 22 has now been amended to delete where Ar² and R¹ are as defined in claim 1. However, "where Ar¹ is as defined in claim 1 stills appear within the claim.

Claim 22 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim is not stated in the alternative, for reasons of record and stated above.

In view of the amendment dated September 30, 2005, the following new grounds of rejection apply:

Election/Restrictions

10. Claim 4 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 20, 2004.

Specification

11. The disclosure is objected to because of the following informalities:

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 1, 3, 5-10, 20-22, 27-31 and 35-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to the definition of R¹ wherein R¹ is hydroxyl is not described in the specification for the genus of formula I.

Applicant is required to cancel the new matter in the reply to this Office action.

13. Claims 5, 6 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to the definition of Ar¹ and Ar² wherein Ar² is thioxo-dihydropyridine is not described in the specification for the genus of formula I.

Applicant is required to cancel the new matter in the reply to this Office action

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.


14. Claims 1-3, 5-10 and 13-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following reasons apply:

- a) Claims 1-3, 5-10, 20-23, 27-31 and 35-41 are vague and indefinite in that it is not known what is meant by "compounds", i.e. plural form, in the first line of the claim.
- b) Claims 1, 3, 5-10, 20-22, 27-31 and 35-41 are vague and indefinite in that it is not known what is meant by said piperidino in the definition of Y.
- c) Claims 1-3, 5-10, 20-22, 27-31 and 35-41 recite the limitation "with the final proviso that if X is oxygen and Y is a 4-8 membered saturated cyclic alkyl containing one or two nitrogen atoms, Y shall not be substituted by a group (C=O)NR,R') at the α -position of the sulfonamide nitrogen. There is insufficient antecedent basis for this limitation in the claim.
- d) Claim 9 is vague and indefinite in that it is not known what is meant by the definition of n^1 where there is no variable n^1 in the claim.
- e) Claims 13-19, 23-26 and 32-34 are vague and indefinite in that it is not known what is meant by unsubstituted in the definition of Ar^1 and Ar^2 .
- f) Claims 29 and 31 are vague and indefinite in that it is not known what is meant by "compositions", i.e. plurals in the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda L. Coleman whose telephone number is 571-272-0665. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Brenda L. Coleman
Primary Examiner Art Unit 1624
December 23, 2005